

9949 Multi-Conductor - Computer Cable for EIA RS-232 Applications



Description:

22 AWG stranded (7x30) TC conductors, S-R PVC insulation, overall Beldfoil® (100% coverage) + TC braid shield (65% coverage), PVC jacket.

Physical Characteristics (Overall)

Conductor

AWG:

# Conductors	AWG	Stranding	Conductor Material
37	22	7x30	TC - Tinned Copper

Insulation

Insulation Material:

Insulation Material
S-R PVC - Semi-Rigid Polyvinyl Chloride

Outer Shield

Outer Shield Material:

Layer #	Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)
1	Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100
2		Braid	TC - Tinned Copper	65

Outer Jacket

Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

Overall Cabling

Overall Cabling Color Code Chart:

Number	Color
1	Black
2	White
3	Red
4	Green
5	Orange
6	Blue
7	White/Black
8	Red/Black
9	Green/Black
10	Orange/Black
11	Blue/Black
12	Black/White
13	Red/White
14	Green/White
15	Blue/White
16	Black/Red
17	White/Red
18	Orange/Red
19	Blue/Red
20	Red/Green
21	Orange/Green
22	Black/White/Red

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23	White/Black/Red
24	Red/Black/White
25	Green/Black/White
26	Orange/Black/White
27	Blue/Black/White
28	Black/Red/Green
29	White/Red/Green
30	Red/Black/Green
31	Green/Black/Orange
32	Orange/Black/Green
33	Blue/White/Orange
34	Black/White/Orange
35	White/Red/Orange
36	Orange/White/Blue
37	White/Red/Blue

Overall Nominal Diameter: 0.460 in.

Mechanical Characteristics (Overall)

Operating Temperature Range: -30°C To +80°C

UL Temperature Rating: 80°C (UL AWM Style 2464)

Bulk Cable Weight: 160 lbs/1000 ft.

Min. Bend Radius (Install)/Minor Axis: 4.600 in.

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

NEC/(UL) Specification: CMG

CEC/C(UL) Specification: CMG

AWM Specification: UL Style 2464 (300 V 80°C)

EU CE Mark: Yes

EU Directive 2000/53/EC (ELV): Yes

EU Directive 2002/95/EC (RoHS): Yes

EU RoHS Compliance Date (mm/dd/yyyy): 10/01/2005

EU Directive 2002/96/EC (WEEE): Yes

EU Directive 2003/11/EC (BFR): Yes

CA Prop 65 (CJ for Wire & Cable): Yes

MII Order #39 (China RoHS): Yes

Flame Test

UL Flame Test: UL1685 FT4 Loading

C(UL) Flame Test: FT4

Plenum/Non-Plenum

Plenum (Y/N): No

Electrical Characteristics (Overall)

Nom. Capacitance Conductor to Conductor:

Capacitance (pF/ft)

35

Nom. Capacitance Cond. to Other Conductor & Shield:

Capacitance (pF/ft)

63

Nom. Conductor DC Resistance:

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DCR @ 20°C (Ohm/1000 ft)

14.7

Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

2.7

Max. Operating Voltage - UL:

Voltage

300 V RMS (UL AWM Style 2464)

Max. Recommended Current:

Current

1.4 Amps per conductor @ 25°C

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
9949 060100	100 FT	16.100 LB	CHROME	C	37 #22 PVC SHLD PVC
9949 0601000	1,000 FT	180.000 LB	CHROME	C	37 #22 PVC SHLD PVC
9949 060500	500 FT	87.500 LB	CHROME	C	37 #22 PVC SHLD PVC

Notes:

C = CRATE REEL PUT-UP.

Introduction

Belden® multi-conductor cables are manufactured in a wide variety of gage sizes, dimensions, insulation materials, shielding configurations, and jacketing materials including Plenum and High-Temperature versions. These cables meet the technical requirements of many different types of systems. In fact, Belden offers one of the broadest lines of UL Listed, NEC and CEC multi-conductor cables available from any single source.

Applications for multi-conductor cables include computers, communications, instrumentation, sound, control, audio, and data transmission. Each of these cables is designed to protect signal integrity under critical conditions by reducing hum, noise, and crosstalk.

To assist you in selecting the proper cable for your application, both the suggested working voltages and the maximum temperature ratings are indicated for each applicable product in this section.

Most of our multi-conductor cables are available from stock. Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find a multi-conductor cable in this catalog section that meets your technical requirements, contact Technical Support at 1-800-BELDEN-1.

Multi-Conductor Cables Packaging

Belden's unique UnReel® cable dispenser is available for many of the multi-conductor products listed in this section. The letter "U" before the specified put-up length denotes UnReel packaging.

Selection Guide

Shielded Multi-Conductor Computer Cables for RS-232 Applications

Specifications		Cable Series*			
		9925	9608	9533	9939
Conductor Size: (AWG)	28				
	24	✓	✓	✓	
	22				✓
	20				
	18				
Page No.		4.18	4.17	4.11	4.19
Insulation:	S-R PVC		✓	✓	✓
	Polyethylene				
	Polypropylene				
	Datalene®†	✓			
Shield:	Overall Foil			✓	
	Drain Wire	✓		✓	
	Overall Foil/Braid	✓	✓		✓
	Braid Coverage	65%	65%		65%
Drain Wire Overall:		Yes	No	Yes	No
No. of Cond. Available:	1				
	2				
	3	✓	✓	✓	✓
	4	✓	✓	✓	✓
	5	✓	✓	✓	✓
	6	✓	✓	✓	✓
	7	✓	✓	✓	✓
	8	✓	✓	✓	✓
	9	✓	✓	✓	✓
	10	✓	✓	✓	✓
	11				
	12				
	13				
	15	✓	✓	✓	✓
	17				
	18				
	19				
	20			✓	
	25	✓	✓	✓	✓
	27				
	30			✓	
	31				
	37	✓	✓		✓
	40			✓	
	50		✓	✓	✓
Capacitance ** (pF/ft.)		12.0	30.0	30.0	35.0

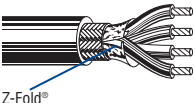
*All cables are UL-listed.

**Capacitance may vary on some cables.

† Foam high density polyethylene.

Overall Foil/Braid Shield

Computer Cables for EIA RS-232 Applications

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Cond.	Color Code	Standard Lengths		Standard Unit Weight		Nominal OD		Nominal DCR		Nominal Capacitance			
					Ft.	m	Lbs.	kg	Inch	mm	Cond.	Shield	* pF/ Ft.	* pF/ m	** pF/ Ft.	** pF/ m
22 AWG Stranded (7x30) Tinned Copper Conductors • Overall Beldfoil® (100% Coverage) + Tinned Copper Braid Shield (65% Coverage)																
Semi-rigid PVC Insulation • Chrome PVC Jacket																
 UL AWM Style 2464 (300V 80°C) Z-Fold®	9939	NEC:	3	See Chart 1 (Tech Info Section)	100	30.5	3.6	1.6	.202	5.13	14.7Ω/M'	6.2Ω/M'	37	121	67	220
		CMG:			500	152.4	14.0	6.4			48.2Ω/km	20.3Ω/km				
		CEC:			1000	304.8	27.0	12.3								
		CMG FT4														
	9940	NEC:	4	See Chart 1 (Tech Info Section)	100	30.5	4.0	1.8	.215	5.46	14.7Ω/M'	5.0Ω/M'	37	121	67	220
		CMG:			500	152.4	16.5	7.5			48.2Ω/km	16.4Ω/km				
		CEC:			1000	304.8	32.0	14.5								
		CMG FT4														
	9941	NEC:	5	See Chart 1 (Tech Info Section)	100	30.5	4.2	1.8	.230	5.84	14.7Ω/M'	7.1Ω/M'	37	121	67	220
		CMG:			500	152.4	19.0	8.6			48.2Ω/km	23.3Ω/km				
		CEC:			1000	304.8	38.0	17.3								
		CMG FT4														
9942	NEC:	6	See Chart 1 (Tech Info Section)	100	30.5	4.7	2.1	.245	6.22	14.7Ω/M'	7.9Ω/M'	35	115	63	207	
	CMG:			500	152.4	22.0	10.0			48.2Ω/km	25.9Ω/km					
	CEC:			1000	304.8	43.0	19.5									
	CMG FT4															
9943	NEC:	7	See Chart 1 (Tech Info Section)	100	30.5	5.0	2.3	.245	6.22	14.7Ω/M'	7.0Ω/M'	35	115	63	207	
	CMG:			500	152.4	23.5	10.8			48.2Ω/km	23.0Ω/km					
	CEC:			1000	304.8	46.0	20.9									
	CMG FT4															
9944	NEC:	8	See Chart 1 (Tech Info Section)	100	30.5	5.5	2.5	.260	6.60	14.7Ω/M'	6.0Ω/M'	35	115	63	207	
	CMG:			500	152.4	26.0	11.8			48.2Ω/km	19.7Ω/km					
	CEC:			1000	304.8	52.0	23.6									
	CMG FT4															
9945	NEC:	9	See Chart 1 (Tech Info Section)	100	30.5	6.1	2.8	.280	7.11	14.7Ω/M'	5.1Ω/M'	35	115	63	207	
	CMG:			500	152.4	28.5	12.9			48.2Ω/km	16.7Ω/km					
	CEC:			1000	304.8	57.0	25.9									
	CMG FT4															
9946	NEC:	10	See Chart 1 (Tech Info Section)	100	30.5	6.6	3.0	.300	7.62	14.7Ω/M'	4.6Ω/M'	35	115	63	207	
	CMG:			500	152.4	31.5	14.3			48.2Ω/km	15.1Ω/km					
	CEC:			1000	304.8	62.0	28.1									
	CMG FT4															
9947	NEC:	15	See Chart 2R (Tech Info Section)	100	30.5	8.7	4.0	.340	8.64	14.7Ω/M'	4.1Ω/M'	35	115	63	207	
	CMG:			500	152.4	42.5	19.3			48.2Ω/km	13.5Ω/km					
	CEC:			1000	304.8	83.0	37.7									
	CMG FT4															
9948	NEC:	25	See Chart 2R (Tech Info Section)	100	30.5	13.3	6.0	.410	10.41	14.7Ω/M'	3.1Ω/M'	35	115	63	207	
	CMG:			500	152.4	66.5	30.2			48.2Ω/km	10.2Ω/km					
	CEC:			1000	304.8	132.0	59.9									
	CMG FT4															
9949	NEC:	37	See Chart 2R (Tech Info Section)	100	30.5	16.1	7.3	.460	11.68	14.7Ω/M'	2.7Ω/M'	35	115	63	207	
	CMG:			500	152.4	87.5	39.7			48.2Ω/km	8.9Ω/km					
	CEC:			1000	304.8	180.0	81.7									
	CMG FT4															
9950	NEC:	50	See Chart 2R (Tech Info Section)	100	30.5	25.2	11.4	.555	14.10	14.7Ω/M'	2.3Ω/M'	35	115	63	207	
	CMG:			500	152.4	118.0	53.6			48.2Ω/km	7.5Ω/km					
	CEC:			1000	304.8	238.0	108.1									
	CMG FT4															

DCR = DC Resistance

*Capacitance between conductors.

**Nominal capacitance conductor to conductor and shield.